

# Modifying the Cisco 200 Configuration Files

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This appendix describes procedures for changing the Cisco 200 configuration files and contains the following sections:

- Making Changes to the Configuration Files
- Modifying the ISDN200.CFG File
- Modifying the NET.CFG File
- Changing Common Parameters

## Making Changes to the Configuration Files

When you make changes to the configuration files, you need a text editor or word processor that provides the capability to save the files as DOS ASCII text. For example, the DOS editor EDIT.COM is a valid text editor in DOS, and the Windows Notepad is a valid editor in Windows. Follow the procedures outlined below to make a backup copy of the original file.

**Step 1** At the DOS command line, enter the following command:

```
COPY NET.CFG NET.OLD
```

**Step 2** Launch your text editor program and open the appropriate configuration file.

**Step 3** Modify the NET.CFG configuration file.

**Step 4** Save the configuration file and exit your text editor.

**Step 5** If you are running Windows or Windows for Workgroups, exit Windows completely.

## Modifying the ISDN200.CFG File

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**Step 6** Unload the Cisco 200 by running DCONNECT.BAT. At the DOS command line, enter the following command:

```
DCONNECT
```

**Step 7** To make the changes take effect, run CONNECT. BAT to start the router(s). At the DOS command line, enter the following command:

```
CONNECT routername
```

## Modifying the ISDN200.CFG File

The ISDN200.CFG file contains most of the information required to manage the ISDN connection. This file is automatically created when you install the Cisco 200 software.

You might need to modify the ISDN200.CFG file after you initially install the Cisco 200 software. For example, you may want to enable IP or bridging; use the Cisco 200 in Windows; or add, delete, or modify remote locations.

To modify the ISDN200.CFG file, use any text editor or word processor that will allow you to save the file as DOS ASCII text.

The ISDN200.CFG file is divided into three sections:

- Local Configuration—Specifies the configuration of the Cisco 200 workstation.
- Connection Router Configuration—Contains the parameters of the default connecting router with which the PC will communicate.
- Additional Connection Router Configuration(s) (Optional)—Contains the parameters for additional connecting routers. These parameters are arranged in the same order as those for the first connecting router.

## Sample ISDN200.CFG Files

Two example files, ISDNCFG1.EXP (illustrating use outside North America) and ISDNCFG2.EXP (illustrating use within North America), are copied to your Cisco 200 directory when you install the Cisco 200 software.

The following example shows the ISDNCFG2.EXP file for the North American ISDN protocols:

```

; Sample ISDN200.CFG file
;
; Your Local Configuration
;
NAME                = MyHomeOffice
;OWN MSN             = *
ACCEPTED MSN        = *
;
; Your Connecting Router Configuration
;
[HEADQUARTERS]
NAME                = HEADQUARTERS
PASSWORD            = Secret
DIALNUMBER          = .14085553333 ; The number to be dialed
;                               preceded by a period
;
;SERVICE            = DATA56 ; 56 Kbps Line speed
SERVICE            = DATA64 ; 64 Kbps Line speed
INACTIVITY TIMEOUT = 20
;IPX                 = DISABLE ; To use IPX, comment out this
;                               line using a leading
;                               semicolon.
;IP                  = DISABLE ; To use IP, comment out this
;                               line using a leading
;                               semicolon.
MLB                 = DISABLE ; To use MAC Layer Bridging,
;                               comment out this line using a
;                               leading semicolon.
INDICATED DIALNUMBER = IGNORE ; Ignore the DIALNUMBER from
;                               ISDN and take all calls
;
PPP_MULTILINK = DYNAMIC
CHANNELS = 2
PPP_CALLBACK = TRUE

```

## Modifying the ISDN200.CFG File

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**Note** Do not delete any lines in the ISDN200.CFG file or leave any of its parameters blank. Either use the default value or make the line into a comment by placing a semicolon (;) at the beginning of the line.

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The following example illustrates the ISDNCFG1.EXP file that is created for the European protocol DSS1:

```
; Sample ISDN200.CFG File
;
; Your Local Configuration
;
NAME                = MyHomeOffice
;OWN MSN             = *
ACCEPTED MSN        = *
;
;Your Connecting Router Configuration
;
[HEADQUARTERS]
NAME                = HEADQUARTERS
PASSWORD            = Secret
DIALNUMBER          = .492395553333 ; The number to be dialed
;                                     preceded by a period
;
;SERVICE            = DATA56 ; 56 Kbps Line speed
SERVICE            = DATA64 ; 64 Kbps Line speed
INACTIVITY TIMEOUT = 20
;IPX                 = DISABLE ; To use IPX, comment out this
;                                     line using a leading
;                                     semicolon.
;IP                  = DISABLE ; To use IP, comment out this
;                                     line using a leading
;                                     semicolon.
MLB                  = DISABLE ; To use MAC Layer Bridging,
;                                     comment out this line using a
;                                     leading semicolon.
INDICATED DIALNUMBER = IGNORE ; Ignore the DIALNUMBER from
;                                     ISDN and take all calls
;
PPP_MULTILINK = DYNAMIC
CHANNELS = 2
PPP_CALLBACK = TRUE
```

## ISDN200.CFG Parameters

The parameters listed in the ISDN200.CFG file, along with the examples used throughout this manual, are outlined in Table B-1 below and explained in the text that follows.

**Table B-1 ISDN200.CFG Parameters**

Section	Parameter	Example
Local Configuration	Name	NAME = MyHomeOffice
	Own MSN <sup>1</sup>	;OWN MSN = *
	Accepted MSN	ACCEPTED MSN = *
Connecting Router Configuration(s)	Name	NAME = HEADQUARTERS
	Password	PASSWORD = Secret
	Dialnumber	.914085553000
	Service	SERVICE = DATA64
	Inactivity Timeout	INACTIVITY TIMEOUT = 20
	IPX	;IPX = DISABLE
	IP	;IP = DISABLE
	MLB	MLB = DISABLE
	Indicated Dialnumber	INDICATED DIALNUMBER = IGNORE
	PPP Multilink	PPP_MULTILINK = DYNAMIC
	Channels	CHANNELS = 2
PPP Callback	PPP_CALLBACK = TRUE	

1. MSN = multiple subscriber number

### Local Configuration Parameters

- **Name**—This is the name of the local Cisco 200. In these examples, this is defined as “MyHomeOffice.”
- **Own MSN**—This optional parameter is used for outgoing calls only on certain PABX systems. If you do not enter a number here, the part of the dialnumber after the last hyphen (which specifies your own dialnumber) is transferred as the calling party number during an outgoing call.

Some PABXs do not specify the entire dialnumber as their own calling party number during an outgoing call. Therefore, you can enter in this field the entire MSN to be transmitted or the entire dialnumber with terminal selection digit to be transmitted.

- **Accepted MSN**—This parameter is important in some PABXs for inbound calls. It controls which multiple dialnumbers on the S<sub>0</sub> bus (Euro-ISDN) address the relevant ISDN Adapter. If you are using only one ISDN Adapter, **do not** change the default setting, which is an asterisk (\*).

If \* (asterisk) is entered in this field, the workstation reacts to all authorized inbound calls with the service identification data transfer rate (64 kbps).

If this field is empty, the workstation automatically uses the last block (after the hyphen) of its own dialnumber for the MSN comparison (Euro-ISDN).

When using the DSS1 Protocol, enter the MSN specific to your workstation’s ISDN Adapter.

### Connecting Router Configuration Parameters

- **Name**—This parameter specifies the name of the remote router; the name can consist of up to 12 characters. You can use any alphanumeric character and the underscore (\_) character. Enter the same string in the square brackets above the Name parameter as that specified in the Name parameter.
- **Password**—This parameter specifies your CHAP password for authentication by the remote router.
- **Dialnumber**—This parameter specifies the dialnumber for the connecting router.

The dialnumber parameter contains (as a single string) all the numbers that must be dialed to form a connection to the connecting router. The dialnumber string should include, as applicable, the following codes or numbers:

- International access code
- Long-distance access code
- Public access code
- Signalling system 7 code
- Country code
- Area code
- Seven-digit telephone number (North America)
- Subscriber/extension number (Europe)
- Service—This parameter specifies the line speed for the connection to the remote router. Use a leading semicolon (;) to comment out the incorrect parameter (in our examples, DATA56 is commented out).
- Inactivity Timeout—This parameter controls the number of seconds that the Cisco 200 software will wait during periods of non-use before disconnecting the ISDN connection. This feature can be used to control costs.

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**Note** If you do not set this parameter, if you assign it a value of 0, or if this parameter does not exist, ISDN connections will never be brought down and you might incur unnecessary costs whenever you use your Cisco 200 workstation.

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When two stations with different values for this parameter are communicating, the smaller value is automatically used. If this parameter is enabled on only one station, the inactivity timeout is used according to the value set on that station. The default setting is 20.

- IPX—To enable IPX routing, use a leading semicolon (;) to comment out this line.
- IP—To enable IP routing, use a leading semicolon (;) to comment out this line.

- **MLB**—To enable MAC Layer Bridging, use a leading semicolon (;) to comment out this line.
- **Indicated Dialnumber**—Enter the dialnumber your remote router will be expecting if a call like the one defined below is received. You can specify several dialnumbers for the same remote router.

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**Note** If this parameter is not specified, the ODI driver automatically determines the original address of the caller through its own dialnumber or that of the router. If the determined or specified number doesn't match the number given by the network, the incoming call will be rejected.

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This parameter is used if the remote router's dialnumber to be called is different from the remote router number supplied by the network. It is also used when calls are received at different times from remote routers using different line numbers.

If you do not know which number the network will supply to your remote parameter, you can set this parameter to **IGNORE**. All incoming calls will be accepted, but the caller will be identified via a Welcome Packet exchanged between the workstation and the router at the beginning of every connection.

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**Note** When you use **IGNORE**, you are overriding the security provisions of the ISDN network. In this case, anyone who knows the parameter file of your remote router can establish a connection with your workstation.

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If you go through a passive connection establishment (reestablish after a transparent connection deestablishment from the router), you can use the utility provided to ask which number was indicated on the network side and enter it instead of **IGNORE** in your ISDN200.CFG file.

- **PPP Multilink**—This parameter specifies whether to use the second ISDN B channel dynamically or permanently.



If you use the second B channel dynamically, the Cisco 200 software automatically raises the second line when it detects that a large amount of data is being transferred, and lowers the line after traffic decreases. To use the second B channel dynamically, enter the following string in the ISDN200.CFG file:

```
PPP_MULTILINK=DYNAMIC
```

If you use both B channels all the time, you can improve your system's response time but potentially incur higher line costs. To use both B-channels all the time, enter the following string in the ISDN200.CFG file:

```
PPP_MULTILINK=STATIC
```

- **Channels**—This should be set to 2 if you are using PPP multilink or 1 if you are not using PPP multilink.
- **PPP Callback**—This parameter specifies that calls outgoing from the Cisco 200 will connect just long enough to request the router to call back. This allows the bulk of the connection costs to be billed to the connecting router and provides an extra layer of security because the connecting router will only dial a previously configured number to reach the authenticated user.

To enable PPP callback, enter the following string in the ISDN200.CFG file:

```
PPP_CALLBACK=TRUE
```

To disable PPP callback, enter the following string in the ISDN200.CFG file:

```
PPP_CALLBACK=FALSE
```

Alternately, to disable PPP callback, you may comment out the statement `PPP_CALLBACK=TRUE` in the ISDN200.CFG file using a semicolon, as in the following example:

```
;PPP_CALLBACK=TRUE
```

# Modifying the NET.CFG File

The NET.CFG file contains information required to manage the protocols running over the ISDN connection. This file is automatically created when you install the Cisco 200 software.

You may need to modify the NET.CFG file after you initially install the Cisco 200 software. To modify the NET.CFG file, use any text editor or word processor that will allow you to save the file as DOS ASCII text.

## Sample NET.CFG File

The following example illustrates a NET.CFG file for Cisco 200. This file, NETCFG.EXP, was copied to your Cisco 200 directory when you ran INSTALL.EXE. See Table B-2 for an explanation of the listed parameters.

```
; THIS IS AN EXAMPLE OF THE INFORMATION USED TO CREATE
; THE NET.CFG BY THE CISCO 200 PERSONAL OFFICE FOR ISDN
; INSTALL PROGRAM
;
spx connections = 50
show dots = on
file handles = 60
; Required when PBURST is in use
pb buffers = 4
;
Link Support
    Max Stacks 8
    Max Boards 4
    Buffers 8 1600
    Mempool 4096
;
;Required when using NetWare VLMS
NetWare DOS Requester
    First Network Drive = F
    Netware Protocol = NDS BIND
; Required when PBURST is in use
    Pburst Write Window Size = 4
    Read Only Compatibility = ON
;
IPXODI
    IPX Retry Count = 60
;
```

```

; THIS IS AN EXAMPLE OF THE INFORMATION APPENDED TO
; ALL NET.CFG FILES BY THE CISCO 200 PERSONAL OFFICE
; FOR ISDN INSTALL PROGRAM
;
Link Driver CISCO200
    Frame ETHERNET_II
; The following frame types are required
; by MS-Windows for Workgroups v3.11
    Frame ETHERNET_802.2
    Frame ETHERNET_802.3
    Frame ETHERNET_SNAP
    Node Address 000455091234

```

## NET.CFG Parameters

Table B-2 lists the parameters used for the Cisco 200 NET.CFG file and their use. For information on other parameters, see your network software manufacturer's documentation. See the sample NET.CFG File above for the correct format of each entry.

**Table B-2**      **NET.CFG Parameters**

Parameter	Description
Link Driver CISCO200	This statement is required by your network software for the Cisco 200 driver. See your network documentation for more information.
Frame	To run the Cisco 200: <ul style="list-style-type: none"> <li>• The Ethernet II frame type must be the first Frame type.</li> <li>• The Ethernet II frame type must be enabled (that is, there should not be a leading semicolon before it in the line in which it occurs).</li> </ul>
Node Address	The node MAC address for your Cisco 200 workstation from the Software Installation Worksheet. This address must be unique. It is 12 characters long and can include a combination of numbers (1-9, 0) and letters (A-F).

When you have finished modifying the NET.CFG file, make sure you save the changes in DOS ASCII text format.

# Changing Common Parameters

This section guides you through the process of modifying configuration parameters that might change. For example, you might be required to do one or more of the following tasks:

- Changing the Node MAC Address
- Changing the Connecting Router Telephone Number
- Adding a Connecting Router
- Changing the CHAP Password
- Enabling or Disabling a Protocol
- Enabling or Disabling PPP Multilink
- Enabling or Disabling PPP Callback

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**Note** Any editing of Cisco 200 files must be done in a text editor or word processor that allows you to save the edited files in DOS ASCII text format.

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## Changing the Node MAC Address

To change the node MAC address, you must edit the NET.CFG file. Follow these steps:

- Step 1** Back up the NET.CFG file to NET.OLD.
- Step 2** In the NET.CFG file, locate the NODE ADDRESS parameter in the “Link Driver CISCO200” section.
- Step 3** Replace the existing NODE ADDRESS parameter with the new NODE ADDRESS parameter.
- Step 4** Save the NET.CFG file in DOS ASCII text format and exit your text editor.
- Step 5** If you are running Windows or Windows for Workgroups, exit Windows completely.
- Step 6** Unload the Cisco 200 by running DCONNECT.BAT. At the DOS command line, enter:

```
DCONNECT
```

- Step 7** To make the changes take effect, run `CONNECT.BAT` to start the router(s). At the DOS command line, enter:

```
CONNECT routername
```

## Changing the Connecting Router Telephone Number

To change the connecting router telephone number, take these steps to edit the `ISDN200.CFG` file:

- Step 1** Back up the `ISDN200.CFG` file to `ISDN200.OLD`.
- Step 2** Locate the `dialnumber` parameter in the “Your Connecting Router Configuration” section.
- Step 3** Replace the existing `dialnumber` parameter with the new `dialnumber` parameter. Ensure that you include all necessary numbers or codes in the `dialnumber` parameter. Possible numbers or codes include:
- International access code
  - Long-distance access code
  - Public access code
  - Signalling system 7 code
  - Country code (for a list of country codes, refer to Table B-3, “Country Codes”)
  - Area code
  - Seven-digit telephone number (North America)
  - Subscriber/extension number (Europe)

**Table B-3 Country Codes<sup>1</sup>**

<b>Country</b>	<b>Code</b>	<b>Country</b>	<b>Code</b>
Argentina	54	Italy	39
Australia	61	Japan	81
Austria	43	Korea	82
Bahrain	973	Kuwait	965
Belgium	32	Mexico	52
Belize	501	Luxembourg	352
Bolivia	591	Netherlands	31
Brazil	55	Monaco	33
Canada	1	New Zealand	64
Chile	56	Norway	47
Colombia	57	Peru	51
Czechoslovakia	42	Philippines	63
Denmark	45	Poland	48
Finland	358	Portugal	351
France	33	Romania	40
Germany	49	Russia	7
Greece	30	South Africa	27
Greenland	299	Spain	34
Guam	671	Sweden	46
Hungary	36	Switzerland	41
Hong Kong	852	Taiwan	886
Iceland	354	Turkey	90
India	91	United Kingdom	44

1. This table contains a partial list of long-distance country codes. This information is provided as a convenience and is subject to change without notice. Contact your long-distance carrier for verification.

Country	Code	Country	Code
Ireland	353	United States	1
Israel	972	Yugoslavia	38

- Step 4** If more than one connecting router is listed in the ISDN200.CFG file, repeat Step 3 to change the Dialnumber configuration for the additional connecting router(s) as necessary.
- Step 5** Save the ISDN200.CFG file in DOS ASCII text format and exit your text editor.
- Step 6** If you are running Windows or Windows for Workgroups exit Windows completely.
- Step 7** Unload the Cisco 200 by running DCONNECT.BAT. At the DOS command line, enter:
- ```
DCONNECT
```
- Step 8** To make the changes take effect, run CONNECT. BAT to start the router(s). At the DOS command line, enter:
- ```
CONNECT routername
```

## Adding a Connecting Router

To add a new connecting router, follow these steps to edit the ISDN200.CFG file:

- Step 1** Back up the ISDN200.CFG file to ISDN200.OLD.
- Step 2** Open the ISDN200.CFG file using a text editor.
- Step 3** Locate the “Your Connecting Router Configuration” section. Copy this section and paste it at the end of the ISDN200.CFG file.
- Step 4** Replace the following parameters with the new router configuration information:
- Name
  - Password
  - Dialnumber

## Changing Common Parameters

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- Step 5** Replace the rest of the router parameters with the new router configuration information.
- Step 6** Verify the new router's supported protocols. Supported protocols are listed with a semicolon (;) at the beginning of the line.
- Step 7** If you need to enable or disable a protocol, follow the steps in the procedure "Enabling or Disabling a Protocol" later in this chapter.
- Step 8** Repeat Step 3 through Step 7 for any additional router(s).
- Step 9** Save the ISDN200.CFG file in DOS ASCII text format and exit the text editor.
- Step 10** If you are running Windows or Windows for Workgroups, exit Windows completely.
- Step 11** Unload the Cisco 200 by running DCONNECT.BAT. At the DOS command line, enter:
- ```
DCONNECT
```
- Step 12** To make the changes take effect, run CONNECT.BAT to start the router(s). At the DOS command line, enter:

```
CONNECT routername
```

## Changing the CHAP Password

To change the CHAP password, take these steps to edit the ISDN200.CFG file:

- Step 1** Back up the ISDN200.CFG file to ISDN200.OLD.
- Step 2** Locate the existing Password parameter and replace the existing Password parameter with the new Password parameter.
- Step 3** Save the ISDN200.CFG file in DOS ASCII text format and exit the text editor.
- Step 4** If you are running Windows or Windows for Workgroups, exit Windows completely.
- Step 5** Unload the Cisco 200 by running DCONNECT.BAT. At the DOS command line, enter:
- ```
DCONNECT
```



- Step 6** To make the changes take effect, run `CONNECT.BAT` to start the router(s). At the DOS command line, enter:

```
CONNECT routername
```

## Enabling or Disabling a Protocol

To enable or disable a network protocol (IP, IPX, or MAC Layer Bridging), you must edit the `ISDN200.CFG` file. Supported protocols are listed with a semicolon (;) at the beginning of the line. Follow these steps:

- Step 1** Back up the `ISDN200.CFG` file to `ISDN200.OLD`.
- Step 2** Locate the “Your Connecting Router Configuration” section in the `ISDN200.CFG` file.
- Step 3** To enable a protocol, place a semicolon at the beginning of the line before the listed protocol.
- Step 4** To disable a protocol, delete the leading semicolon.
- Step 5** If more than one connecting router is listed in the `ISDN200.CFG` file, repeat Step 2 through Step 4 to enable or disable the protocols for the additional connecting router(s).
- Step 6** Save the `ISDN200.CFG` file in DOS ASCII text format and exit the text editor.
- Step 7** If you are running Windows or Windows for Workgroups, exit Windows completely.
- Step 8** Unload the Cisco 200 by running `DCONNECT.BAT`. At the DOS command line, enter:

```
DCONNECT
```

- Step 9** To make the changes take effect, run `CONNECT.BAT` to start the router(s). At the DOS command line, enter:

```
CONNECT routername
```

### Enabling or Disabling PPP Multilink

To enable or disable PPP multilink, changing the way the second ISDN B channel is used, edit the ISDN200.CFG file. Follow these steps:

- Step 1** Back up the ISDN200.CFG file to ISDN200.OLD.
- Step 2** Locate the existing PPP\_MULTILINK parameter.
- Step 3** Replace the existing PPP\_MULTILINK parameter with the new PPP\_MULTILINK parameter. To use the second B channel dynamically (that is, as needed), enter:

```
PPP_MULTILINK=DYNAMIC
```

To use the second B channel permanently, enter:

```
PPP_MULTILINK=STATIC
```

- Step 4** If more than one connecting router is listed in the ISDN200.CFG file, repeat Step 3 to change the use of the second B channel for the additional connecting router(s).
- Step 5** Save the ISDN200.CFG file in DOS ASCII text format and exit the text editor.
- Step 6** If you are running Windows or Windows for Workgroups, exit Windows completely.
- Step 7** Unload the Cisco 200 by running DCONNECT.BAT. At the DOS command line, enter:

```
DCONNECT
```

- Step 8** To make the changes take effect, run CONNECT. BAT to start the router(s). At the DOS command line, enter:

```
CONNECT routename
```

### Enabling or Disabling PPP Callback

To enable or disable PPP callback, take these steps to edit the ISDN200.CFG file:

- Step 1** Back up the ISDN200.CFG file to ISDN200.OLD.
- Step 2** Locate the existing PPP\_CALLBACK parameter.

- Step 3** Replace the existing PPP\_CALLBACK parameter with the new PPP\_CALLBACK parameter.
- To enable PPP callback, enter:  
`PPP_CALLBACK=TRUE`
  - To disable PPP callback, enter:  
`PPP_CALLBACK=FALSE`
- Alternately, to disable PPP Callback, you may use a semicolon to comment out the statement PPP\_CALLBACK=TRUE, as in the following example:  
`;PPP_CALLBACK=TRUE`
- Step 4** If more than one connecting router is listed in the ISDN200.CFG file, repeat Step 3 to change the PPP callback configuration for the additional connecting router(s).
- Step 5** Save the ISDN200.CFG file and exit the text editor.
- Step 6** If you are running Windows or Windows for Workgroups, exit Windows completely.
- Step 7** Unload the Cisco 200 software by running DCONNECT.BAT. At the DOS command line, enter:  
`DCONNECT`
- Step 8** To make the changes take effect, run CONNECT. BAT to start the router(s). At the DOS command line, enter:  
`CONNECT routername`

